Petition

Supreme Court, U.S.
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81-1795

No. ..-....
IN THE

Supreme Court of the United States

October Term, 1981

SMITH INTERNATIONAL, INC.,

Petitioner,

v.

HUGHES TOOL COMPANY,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT.

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Questions Presented.

1. Whether an unclaimed feature to which no reference is made in a patent specification can by judicial addition be made an element of the patent claim to serve as the basis for validation of the claim.

2. Whether the action of a Court of Appeals in ignoring completely and without explanation the specific findings of the District Court is a denial of the right to trial by a trier of fact that has heard conflicting evidence and calls for an exercise of this Court's power of supervision.

Pursuant to Rule 28.1 of this Court, Petitioner Smith International Inc., states that it has no parent companies, and that it has the following affiliates (other than wholly owned subsidiaries): Drilling Tools & Services Sdn. Bhd., Singapore; Guide Smith International, Iran; McEvoy Egyptian Equipment Company, Egypt; Servicos & Manufacturas, Peru; SIDEM, S.A., Mexico; Smith-Boart (Pty.) Ltd., South Africa; Smith Brocas, C.A., Venezuela; Smith International Arabia, Saudi Arabia; Smith International Gulf Services Limited, United Arab Emirates; and SRI Timor Oilfield Supplies & Equipment Sdn. Bhd., Malaysia.

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SMITH INTERNATIONAL, INC.,

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vs.

HUGHES TOOL COMPANY,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT.

Petitioner, Smith International, Inc., respectfully prays that a writ of certiorari issue to review the judgment entered on January 7, 1982 by the United States Court of Appeals for the Ninth Circuit.

OPINIONS BELOW.

The opinion of the Court of Appeals for the Ninth Circuit is reported at 664 F.2d 1373 [A-17].[1] The District Court for the Central District of California entered a judgment [A-1] and findings of fact and conclusions of law [A-2] which are unreported.

[1]Citations in the form "[A-]" are to pages of the Appendix bound with this Petition.

JURISDICTION.

The judgment of the Court of Appeals for the Ninth Circuit was entered on January 7, 1982. A timely petition for rehearing was denied on February 22, 1982. This petition for a writ of certiorari is filed within ninety days of the entry of judgment. The jurisdiction of this Court arises under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED.

The statutory provision involved in the first question is 35 U.S.C. § 112 of the Patent Act of 1952 which in pertinent part provides:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The federal rule involved in the second question is Rule 52(a) of the Federal Rules of Civil Procedure, which provides in pertinent part:

> In all actions tried upon the facts without a jury or with an advisory jury, the court shall find the facts specially and state separately its conclusions of law thereon. . . . Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses."

STATEMENT OF THE CASE.

This is a patent case (District Court jurisdiction arising under 28 U.S.C. §§ 1338(a) and 2201) involving U.S. Patents 3,397,928 (the '928 patent) and 3,476,195 (the '195 patent) issued to an employee (Edward Galle) of Hughes Tool Company (respondent) and assigned to Hughes Tool. Both patents relate to features of rock bits which are used in rotary drilling of oil and gas wells. The now-patented features are assertedly improvements in the basic rock bits over which Hughes Tool held an extraordinary patent monopoly for a considerable portion of this century.

The subject matter actually patented is extremely simple. As more particularly developed below, the '928 patent claims as invention the compression or squeezing of a rubber O-ring ("not less than substantially ten percent") into a groove so that the compressed O-ring will act as a seal to prevent loss of lubricant from a bearing area. (An unsqueezed O-ring in a rock bit will no more function as a seal to prevent lubricant leakage than an unsqueezed rubber washer in a household faucet will function as a seal to prevent water drippage.) The '195 patent claims as invention that a relief valve should be utilized in a rock bit to relieve an excessive build-up of lubricant pressure while the bit is being rotated to drill a well. (A relief valve is commonplace to relieve excessive pressures, *e.g.*, in household pressure cookers.)

The District Court held both patents invalid as lacking novelty ("anticipated") and as obvious in view of the prior art. The Court of Appeals reversed, and declared both patents valid. As to the '928 patent, the validity holding by the Court of Appeals was upon the basis of a feature neither claimed nor referred to in the patent. In addition, as to both patents, the Court of Appeals ignored the findings of the District Court and found facts of its own from conflicting testimony to reverse the District Court judgment. This judg-

ment opens the way for Hughes to assert further patent monopolies against its few competitors.[2]

The Proceedings Below as to the '928 Patent.

Only the '928 patent is involved in the first question presented.

As to the '928 patent, the District Court found "it is clear that the concept asserted to be patentable was the sizing of the groove in which the ring is positioned and an opposing surface so that when the rock bit is assembled, the ring is 'compressed by not less than substantially ten percent' " [A-3].

In a rock bit, the O-ring forms what is termed a rotary seal — the O-ring is compressed between a rotating surface and a stationary surface. Extensive evidence was presented at trial, through testimony, catalogs[3] and other published materials, that O-ring manufacturers, Parker Seal and Linear, recommended O-ring compressions for low-speed[4] rotary seals that were the same as the compressions claimed in the '928 patent. Evidence was also presented at trial that petitioner Smith, in 1961-1965, and a company called Turner Bit, in 1946-1958, had separately built and sold prior-art rock bits in which the O-ring seals were compressed in excess of ten percent.

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[2]Rock bits are essential to the location and development of oil and gas resources. In addition to Smith and Hughes, there are only two other major rock-bit manufacturers. One of these, Dresser Industries, was sued by Hughes in 1976 for alleged infringement of the '928 and '195 patents. Since the judgment of the Ninth Circuit, Hughes has reinstated its action against Dresser Industries.

[3]Catalogs of O-ring manufacturers were known to and used by rock-bit designers at Smith, and at Turner Bit Company, *infra*, and by Mr. Galle.

[4]Below 200 feet per minute (fpm) for Parker, below 350 fpm for Linear.

No reference to speed of rotation or to rubbing speeds appears in any claim of the '928 patent. The patent in its entirety is totally silent as to the matter of speeds in use of rock bits. The inventor, Mr. Galle, testified [RT 748]:[5]

"Q Well, are these patent claims limited to any speed?

"A Not at all."

The District Court found that the claimed subject matter of the '928 patent was not limited to any specific speed of rotation [A-4] and that there was no bona fide deterrent to applying the squeezes or compressions recommended by O-ring manufacturers for low-speed rotary seals to O-rings in rock bits [A-10]. On these findings, and the numerous others made by it, the District Court concluded that the '928 patent was invalid for obviousness under 35 U.S.C. § 103.

The District Court also concluded that the prior-art Smith rock bits and the Turner Bit Company rock bits separately anticipated the '928 patent claims and that the patent was invalid under 35 U.S.C. § 102.

The Court of Appeals reversed the judgment of the District Court and declared the '928 patent valid [A-23].

The court looked to one specific O-ring catalog of the several in evidence and stated: "The Parker Handbook, the most comprehensive and authoritative guide in the trade, cautioned against an O-ring seal *under rotary conditions involving high temperatures and high speed rubbing surfaces*" [A-19]. (Emphasis added.)

The Court of Appeals then concluded: "Patent '928 was a combination patent comprised of several elements: an O-ring of specified hardness and squeeze used in a journal

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[5] "[RT ....]" refers to Reporter's Transcript in the record in the Court of Appeals.

as well as a roller bearing *under high speed and high temperature* rotary conditions'' [A-21-22]. (Emphasis added.)

After having made ''high speed and high temperature rotary conditions'' a part of the '928 claims, the Court of Appeals then again referred to the cautionary comment in the Parker Handbook as the basis for its validation of the claims it had created by judicial addition [A-22]: ''In combining an O-ring with a journal bearing,[6] Galle tried something contrary to the leading industry authority on O-rings, the Parker Handbook.'' (Footnote added.) (At high speeds, O-ring manufacturers recommended lower squeezes than those in excess of the ten percent recommended for lower speeds.)

In its opinion, the Court of Appeals made no reference at all to the District Court findings:

(i) That the '928 patent claims do not refer to ''speed'' in any manner[7] [A-4];

(ii) That ''(t)he evidence shows that most, if not substantially all, sealed bearing rock bits . . . are run at speeds below 200 fpm'' [A-8];

(iii) That the Parker Handbook referred to by the Court of Appeals recommended O-ring squeezes not less than ten percent for rotary O-ring seals at speeds under 200 fpm [A-6]; and

(iv) That the Linear catalog recommended O-ring squeezes not less than ten percent for rotary O-ring seals at speeds under 350 fpm [A-7].

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[6]The court earlier stated that the combination of an O-ring with a journal bearing was shown in a prior-art patent, Turner.

[7]The '928 claims also make no reference to temperature in any manner.

Nor did the Court of Appeals make any reference to the District Court's finding that the prior-art Smith rock bits with O-ring seals compressed more than ten percent anticipated and therefore invalidated the '928 patent claims.

The Proceedings Below as to the '195 Patent.

Both the '928 patent and the '195 patent are involved in the second question presented.

In the body of the '195 patent, the invention is characterized as being in the recognition of a problem rather than in the development of a solution for the problem. The "problem that was recognized," according to the patent, was that excessive lubricant pressure developed while the rock bit was drilling at the bottom of the hole. The "Galle solution" was to provide a relief valve in the rock bit to relieve the excessive lubricant pressure.

At the trial, there was extensive and conflicting testimony as to the content of the prior-art Parks patent, 2,906,504, which was not before the Patent Office Examiner.

The District Court found that the Parks patent discloses that an excessive pressure may develop within the bearing space of a rock bit when the bit is drilling "on the bottom" due to heating of the bearing lubricant, and that this excessive pressure, unless relieved, may damage components of the lubrication system, *e.g.*, seals, and thereby shorten bearing life. A relief valve was therefore provided to bleed excessively pressurized lubricant to the outside of the bit [A-13]. It also found on conflicting testimony: "The Parks patent discloses the same problem and the same solution described and claimed in the relief-valve patent" [A-14].

The District Court made several findings as to the structure and function of the rock bit described in the Parks patent [A-13 to 15]. Among these was its finding that the Parks patent included a relief valve and a compensator.

The District Court concluded that the '195 patent was anticipated under 35 U.S.C. § 102 and was obvious under 35 U.S.C. § 103. It therefore held the '195 patent invalid [A-15].

The Court of Appeals reversed the judgment of the District Court and declared the '195 patent valid [A-23].

The Court of Appeals opinion states: "The Parks Patent in 1959 observed that a rise in the bearing temperature during the rotation of the bit could cause a rise in lubricant pressure in the bearings and suggested a relief valve to counteract the pressure" [A-19]. It thereby found in the Parks patent a disclosure of the same problem and same solution as was characterized to be the invention in the '195 patent.

The Court of Appeals made no further reference to the specific content of the Parks patent. It only stated: "The '195 patent is also a combination patent because it combines a pressure relief valve with a pressure compensator. Taken as a whole, the subject matter is not obvious because none of the patents used by Smith as examples of prior art involves a pressure compensator" [A-23].

The Court of Appeals opinion makes no reference to the District Court's finding that the Parks patent combined a pressure relief valve with a pressure compensator. The opinion offers no explanation as to how it was "found" there was no compensator in the Parks patent.

REASONS FOR GRANTING THE WRIT.

Question 1: It Is of Importance to the Maintenance of Confidence in the Patent System That This Court Reaffirm the Prohibition Against Judicial Validation of Patent Claims Upon the Basis of a Feature About Which the Claims and Description of the Patent Are Silent.

The holding of the Ninth Circuit as to the '928 patent is totally in conflict with directly applicable decisions of this Court and with decisions of other circuits. If permitted to stand, it would have an eviscerating effect upon the statutory requirement (35 U.S.C. § 112) that an applicant for a patent present "one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." It encourages an applicant to overclaim by including subject matter in the public domain and later, if the overclaiming is exposed, to retreat to some previously undisclosed limitation conjured up by the imagination of patent counsel.

This holding of the Ninth Circuit even erodes the stability provided by the standards for patentability under 35 U.S.C. § 103 enunciated in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The second of the *Graham* basic factual inquiries requires a comparison — "differences between the prior art and the claims at issue are to be ascertained . . . ." For a comparison to be meaningful, there must be definiteness as to the content of each of the compared elements. The Ninth Circuit holding puts "the claims at issue" into a zone of uncertainty. The public and competitors, instead of looking to the claims as issued in evaluating patentability, must face the uncertainty and unpredictability of later judicial restatement of the claims.

It has long been recognized that an unclaimed feature which is not described or referred to in a patent specification cannot be relied upon for patentability.

In discussing the predecessor of the first two paragraphs of 35 U.S.C. § 112, this Court in *Permutit Co. v. Graver Corp.*, 284 U.S. 52, 60 (1931), stated:

> The statute requires the patentee not only to explain the principle of his apparatus and to describe it in such terms that any person skilled in the art to which it appertains may construct and use it after the expiration of the patent, but also to inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not. The free bed was neither described in the specification nor claimed in either Claim 1 or Claim 5.

The Court held that even the drawings of the patent "are of no avail where there is an entire absence of description of the alleged invention." Nor may patentability be based upon an undisclosed "inherent" feature. *Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U.S. 47, 59-61 (1938).

The Second Circuit, in *Maclaren v. B-I-W Inc.*, 535 F.2d 1367 (1976), applied the same rule of law at 1374 and pointed out at 1373:

> Even though a new, useful and non-obvious invention might have been claimed within proper limits, we cannot, once a patent containing overly broad claims is issued, save it from invalidation by in substance rewriting the claims to restrict the patent to the more limited invention that might properly have been claimed. . . . "It is not the responsibility of the courts to remedy deficiencies in patent claims which might have been avoided by a more careful preparation and presentation to the Patent Office."

In *Bohn Aluminum & Brass Corp. v. Berry*, 124 F.2d 865, 869 (1942), the Sixth Circuit reversed a conclusion of validity based upon an unclaimed feature, *i.e.*, "cam ground," that was not revealed in the patent specification. The same rule was articulated by the Ninth Circuit in *Photo Electronics Corp. v. England*, 581 F.2d 772, 776 (1978):

> The policy favoring liberal construction of patent claims, however, goes only so far. Patent validity may not be founded on functions or characteristics not mentioned in the patent claims. . . . A patentee cannot defend his patent's validity on the basis of functions or characteristics not apparent at the time the patent issued or discoveries that later altered his understanding of his invention's scope.

The facts presented in the *Photo Electronics* case did not, however, require that the rule be applied by the court.

This Court's decision in *United States v. Adams*, 383 U.S. 39 (1966), does not conflict with the foregoing.[8] Although the claims in *Adams* did not mention a water electrolyte, "a *stated* object of the invention was to provide a battery rendered serviceable by the mere addition of water." (*Id.* at 48). (Emphasis added).

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[8]This Court, on the same day as the *Adams* case was decided, referred to the issue in *Graham v. John Deere Co.*, *supra*, 383 U.S. at 25 in the following terms:

> Petitioners' argument basing validity on the free-flex theory raised for the first time on appeal is reminiscent of *Lincoln Engineering Co. v. Stewart-Warner Corp.*, 303 U.S. 545, 82 L.Ed. 1008, 58 S.Ct. 662 (1938), where the Court called such an effort 'an afterthought. No such function . . . is hinted at in the specifications of the patent. If this were so vital an element in the functioning of the apparatus, it is strange that all mention of it was omitted.' At p. 550, 82 L.Ed. at 1011. No "flexing" argument was raised in the Patent Office. Indeed, the trial judge specifically found that "flexing is not a claim of the patent in suit . . ." and would not permit interrogation as to flexing in the accused devices.

Even though resort might be made to the patent specification for the purpose of construing claims, as in the *Adams* case, there is in the instant case no claim language on the subject of "speed," ambiguous or otherwise, to be construed. Indisputably, there is no reference to "high speed" in the '928 patent claims. There is no reference to any speed — either in the claims or in the patent specification. The Ninth Circuit created the patent claim which it validated — it looked to a prior-art admonition against use of the claimed O-ring compressions at "high speed"; it made "use at high speed" an element of the claim; it then validated the claim on the basis that the inventor "tried something contrary" (that which the court added to the claim) to the prior-art admonition.

The unjustness and inequity of such a holding are underscored by analogy with this Court's holding in *Muncie Gear Works, Inc. v. Outboard, Marine & Manufacturing Co.*, 315 U.S. 759 (1942). If Hughes, more than one year after it had sold rock bits coming within the added language, had in 1968 added the words "under high speed rotary conditions" to its claims in its patent application, the patent would, in view of the total absence of any reference to that feature in the patent specification, be invalid under the *Muncie Gear* holding. A court, some fourteen years after issuance of the '928 patent, should not by judicial addition be permitted to bring about a result which is clearly prohibited by established law.

This Court said in *Muncie Gear* at 768:

> To sustain the claims in question upon the established and admitted facts would require a plain disregard of the public interest sought to be safeguarded by the patent statutes, and so frequently present but so seldom adequately represented in patent litigation.

The Ninth Circuit did not set aside the findings of Judge Firth as clearly erroneous; it ignored the findings.[9] The extended Statement of the Case was presented to demonstrate to this Court that the reversal to validity of the '928 and '195 patents was premised only upon "fact-finding" at the appellate level. The pitfalls in the latter are expressed in Rule 52(a), Federal Rules of Civil Procedure, wherein it is stated, "due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses." *Cf. Graver Tank & Manufacturing Co. v. Linde Air Products Co., supra,* 336 U.S. at 274.

In the case below, there were several controlling findings in which the credibility of witnesses was involved, *e.g.*, the prior-art Smith bits employing O-rings compressed in excess of 10% (not referred to by the Ninth Circuit); the recommendations of the O-ring manufacturer Linear as to O-ring compression (in excess of 10%) at rotational speeds below 350 fpm and as to increasing of O-ring compression where recommended maximum clearances in the sealed bits were exceeded (not referred to by the Ninth Circuit); the combination in the Parks patent of a relief valve and a pressure

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[9]This highly unusual action must be considered in the light of the considerable lengths to which the Hughes brief on appeal went in asking that Judge Firth's findings of fact be disregarded (Hughes Brief, pp. 22-23). Its brief contained references to "illness, stress and fatigue of the trier of fact," that at the time of his decision "he was ill and in the throes of clearing his docket," and that his adoption of findings "came after judicial disability had been certified and in the rush of winding up business on the docket." Hughes asserted "such findings are far removed from the proper judicial climate and inspire little confidence that they were '. . . drawn with the insight of a disinterested mind.'"

In its petition for rehearing, Smith stated:

> If the findings of Judge Firth, without any inquiry into the substantial evidence upon which they are based, are not entitled to any weight (as is revealed by the impact of the opinion), then the case should be remanded for new trial.

The Smith petition was denied without comment.

The facts in the instant case which are the undercarriage of Question 1 are not subject to dispute. The Ninth Circuit's holding is glaringly at odds with 35 U.S.C. § 112 and the decisional law of this Court. The holding fails, therefore, "to guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their rights." *General Electric Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938). There is here presented a broad public interest which goes beyond the present parties and justifies that this Court reaffirm the strictures to be observed within its rule that it is the claim which measures the grant to the patentee.

Question 2: The Action of the Court of Appeals in Ignoring *In Toto* and Without Explanation the Findings of the District Court Based on Conflicting Evidence Calls for an Exercise of This Court's Power of Supervision.

In presenting this second question, petitioner duly and respectfully recognizes that this Court is a court of law and is not a court for correction of errors in fact finding. *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*, 336 U.S. 271, 275 (1949). Petitioner does not ask this Court to review whether the findings of the District Court were clearly erroneous.

Petitioner submits, however, that the treatment of this case in the Court of Appeals opinion so far departed from the usual course of judicial proceedings as to call for an exercise of this Court's power of supervision.

compensator (while reaching a generalized contrary conclusion, no reference by the Ninth Circuit as to the Parks patent finding); the disclosure in the Parks patent of the same problem and the same solution as described and claimed in the '195 patent (not referred to in the Ninth Circuit opinion).

The adoption by a trial court of findings submitted by a prevailing litigant pursuant to the request of the court is a matter not within the control of either litigant. But, whatever the level of scrutiny to which they are subjected, those findings must either be accorded the dignity of the clearly erroneous rule or, if for some reason they are to be discarded *in toto*, then the case should be remanded to produce findings for the appellate court which will be given the weight to which they are entitled.

In *Carpet Seaming Tape Licensing Corp. v. Best Seam Inc.*, 616 F.2d 1133 (9th Cir. 1980), the Ninth Circuit at 1137, fn. 3, quoted at length the opinion of Judge Jerome Frank in *United States v. Forness,* 125 F.2d 928, 942-943 (2nd Cir. 1942). Judge Frank in that opinion stated:

> "For, as every judge knows, to set down in precise words the facts as he finds them is the best way to avoid carelessness in the discharge of that duty: often a strong impression that, on the basis of the evidence, the facts are thus-and-so gives way when it comes to expressing that impression on paper."

Particularly in view of questions raised by Hughes as to the competency of the trial court to make findings, the substantiality of the evidence supporting the findings should have been rigorously scrutinized and the reasons as to why they were or were not clearly erroneous set down in precise words. This did not occur, leaving many questions and complete uncertainty as to the basis for the reversal of the District Court's holding of invalidity.

The imprimatur of validity should not be accorded patents under such circumstances. It is in the interest of fairness and public confidence that the case be remanded for trial of the validity issues.

As to Question 2, this Court should in its supervisory capacity summarily vacate the judgment of the Court of Appeals and remand the case for retrial in the District Court or issue a writ of certiorari to enable further review of the Court of Appeals judgment.

CONCLUSION.

For the reasons stated, a writ of certiorari should issue to review the judgment entered by the Court of Appeals for the Ninth Circuit.

March 26, 1982.

Respectfully submitted,

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Appendix

APPENDIX A.

Judgment.

In the United States District Court, Central District of California.

Smith International, Inc., a California corporation, Plaintiff, v. Hughes Tool Company, a Delaware corporation, Defendant. Civil Action No. 72-1231-RF.

Filed November 3, 1979.

This declaratory-relief action came on regularly for trial by the Court without a jury, Honorable Robert Firth, District Judge, presiding. In accordance with the Court's Findings of Fact and Conclusions of Law entered October 31, 1979, it is Ordered and Adjudged that:

1. All claims of defendant's U.S. Patent 3,397,928 are invalid.

2. All claims of defendant's U.S. Patent 3,476,195 are invalid.

3. All of defendant's counterclaims are dismissed.

4. Plaintiff is entitled to recover its taxable costs incurred in this action.

Dated this 30 day of Nov., 1979.

/s/ Robert T. Firth
United States District Judge

[Seal]

Presented by
Christie, Parker & Hale
Attorneys for Plaintiff
By /s/ Andrew J. Belansky
Andrew J. Belansky

APPENDIX B.

Findings of Fact and Conclusions of Law.

In the United States District Court, Central District of California.

Smith International, Inc., a California corporation, Plaintiff, v. Hughes Tool Company, a Delaware corporation, Defendant. Civil Action No. 72-1231-RF.

Filed October 31, 1979.

On June 2, 1972, Smith International Inc. (Smith herein) filed a complaint in this Central District seeking a declaratory judgment that U.S. Patent No. 3,397,928 owned by defendant Hughes Tool Company (Hughes herein) is invalid. On or about November 15, 1973, Hughes filed a First Amended Answer which included a counterclaim charging Smith with infringement of the above-noted U.S. Patent No. 3,397,928 and, additionally, charging infringement of a second patent, U.S. Patent No. 3,476,195. Subsequently, on or about June 24, 1974, Hughes filed a Second Amended Answer charging that the alleged infringement of the two named patents was willful and deliberate, and adding a demand that any award of damages for the alleged infringement be tripled.

Findings of Fact

1. Smith is a corporation organized and existing under the laws of the State of California and has its principal place of business in Irvine, California.

2. Hughes is a corporation organized and existing under the laws of the State of Delaware and has its principal place of business in Houston, Texas.

3. Both Patent No. 3,397,928 (referred to herein as the "seal patent") and Patent No. 3,478,195 (referred to herein as the "relief valve patent") name Edward M. Galle as

inventor and are owned by Hughes. Each is directed to the incorporation of the "title" feature, i.e., a resilient packing ring, e.g., an O-ring, in the case of the seal patent and a relief valve in the case of the other patent, in rock bits, which are tools used in the drilling of oil wells.

4. No patent claims are presented in this litigation in which there is the combination of a relief valve and a resilient packing ring as claimed in the seal patent. Whatever the contribution of these features, namely, the pressure relief valve and, separately, the resilient packing ring as claimed in the seal patent, such must be separately assessed and treated.

The Seal Patent

5. Although the seal patent contains eleven claims, it is clear that the concept asserted to be patentable was the sizing of the groove in which the ring is positioned and an opposing surface so that when the rock bit is assembled, the ring is "compressed by not less than substantially ten percent." The function of the ring is to provide a seal which seals the lubricant within the rock bit from the drilling fluid in which rock bits are rotated during drilling operations.

6. The groove for the ring and the opposing surface define a cavity which is termed a gland. To produce compression in the ring and therefore force it into sealing relationship with the surfaces of the gland, the gland depth (typically designated L) is made less than the diametrical cross-section of the ring (typically designated W). The difference between these two dimensions (W-L) gives the amount of dimensional compression of the ring. Dividing that value by the uncompressed diametrical cross-section of the ring and multiplying by 100 expresses the compression as a percentage.

7. The terms "compression," "interference," and "squeeze" are interchangeably used in the art.

8. In a rock bit, a cutter is rotatably mounted on a stationary shaft. The seal formed between these elements is termed a dynamic or moving seal and, more specifically, a rotating or rotary seal. This is the nature of the seal to which the claims of the seal patent are directed.

9. The claimed subject matter of the seal patent is not limited to a specific bearing structure. The patent drawings illustrate the use of the rotary seal both in a rock bit having a roller bearing and in a rock bit having a solid journal bearing. Both of these embodiments are encompassed by the claims of the seal patent.

10. The claimed subject matter of the seal is not limited to any specific speed of rotation of the cutter. During the long history of use of resilient packing rings as rotary seals, it came to be recognized that the rubbing between the peripheral surface of the resilient ring and the engaging gland surfaces produced friction which resulted in generation of heat. As will be more specifically treated below, it was found that the heat generated at lower surface speeds (the speed on the peripheral surface of the ring) was sufficiently low so that it did not affect the life of the resilient packing ring. At higher surface speeds, however, the heat generated could be enough to adversely affect the life of the seal.

11. The most widely used type of resilient packing ring is the O-ring. O-rings were widely used by the military and the air force during World War II and considerable research and development with O-rings took place during that period.

12. At the end of World War II, engineers who had worked with O-rings during the war entered industry and found that O-rings could be used in a great variety of industrial applications. Over the period from World War II

to the early 1960's, there was extensive development of O-ring technology and uses. O-rings provided reliable, comparatively foolproof and relatively inexpensive seals.

13. There was widespread distribution of handbooks and catalogs by manufacturers of O-rings to explain to design engineers in industry the various applications of O-rings and to provide the design data for their installation. O-rings were extensively used in many industries and in many fields such as mechanics, hydraulics, and pneumatics.

14. The Parker Seal Company was one O-ring manufacturer which distributed catalogs for use by its own staff engineers and by tool and parts designers and engineers in industry. Its 1957 catalog is a comprehensive work providing gland dimensions for installation of O-rings and much additional data.

15. In the 1957 Parker catalog, recommendations were given for rotary seal applications. The catalog recommended that for surface speeds of from 0 to 200 sfm, the gland dimension data in Design Chart 8-1 should be used. This chart also listed the range of squeezes which would be obtained by using the gland dimensions recommended for each of five commonly used O-ring cross-sections.

16. A range of squeeze was shown in the Parker catalog for each of the listed O-ring cross-sections because there are tolerances in the making of O-rings and in the making of parts. Since it is economically impossible to make a part exactly to a dimension in production, design is based upon the mean between the tolerances. This is termed the design center.

17. The minimum squeeze is obtained by a calculation based upon the smallest O-ring cross-section (W) within the tolerance range for a specified O-ring and the largest gland depth (L) within the tolerance range for the correspondingly

specified gland depth. The maximum squeeze is obtained by using the largest O-ring cross-section and the smallest gland depth, each within its respective tolerance range. The design center squeeze is based upon the mean of the tolerances for the O-ring and the gland depth.

18. The O-ring cross-sections listed in Design Chart 8-1 of the 1957 Parker catalog include the O-ring cross-sections specifically referred to in the seal patent. The design center percentage squeezes recommended in that catalog for rotary O-ring seals in the speed range of from 0 to 200 fpm were in no case less than 10%.

19. Linear was another O-ring manufacturer which distributed in the 1950's a catalog describing O-ring applications. Linear set up a testing program following World War II to evaluate seals which included testing of O-rings in rotary seal applications. As a result of this work, Linear concluded that O-rings should not be recommended for peripheral speeds exceeding 350 fpm. This conclusion was based upon measurements of temperature rise versus rotational speed. While the rise was gradual up to the recommended speed limitations, the temperature rose abruptly above that speed.

20. The results of Linear's testing program information was included in a paper presented in 1950 by Mr. Swartz to, and published by, the National Conference on Industrial Hydraulics. The paper, Exhibit FW, stated at FW-16: "A third type of O-ring installation which is becoming increasingly widely used is the oscillating or rotating shaft seal. . . . Against rotating shafts, the frictional heat generated is usually the limiting factor and O-Rings are not recommended where peripheral speeds exceed 350 F.P.M."

21. In catalogs issued by Linear during the 1950's there was included a table entitled "Rotating or Oscillating Seal

Gland Dimensions For Use With Linear Series 11 O-Rings." The identical data was presented in a 1954 catalog of Crane Packing Company, a distributor for Linear O-rings. The table was prepared specifically to assist engineers who were using O-rings in rotating equipment. A footnote to the table limited the recommendations as to gland dimensions to speeds below 350 fpm. Based upon the gland dimensions provided through use of the catalog table for rotating seals, the design center percentage squeeze recommended by Linear for rotary O-ring seals operating at speeds up to 350 fpm was in no case less than 10%.

22. One of the major factors involved in the minimum squeeze for a rotating seal application, as Mr. Swartz testified, is the clearance between the rotating element and the stationary element. For a given minimum squeeze, there is recommended a maximum clearance. If a customer's application involves a clearance in excess of the maximum recommended clearance, then a new higher minimum squeeze is required.

23. The need for increasing the minimum squeeze where there are greater than recommended clearances is illustrated and described in Section 5 of the 1951 Product Engineering article. There must be sufficient minimum squeeze so that if the shaft is rotating eccentrically there remains sufficient contact on the unloaded side to maintain a seal. If the minimum squeeze were not raised when the maximum recommended clearance is exceeded, there would be leakage because possible eccentric-loading or side-loading of the shaft could increase the squeeze on one side and decrease it to possibly zero on the other side.

24. The need for increasing minimum squeeze where there are greater than recommended clearances was and is part of the routine skills of designers and engineers and such

need was known long prior to filing of the application for the seal patent.

25. Use of resilient packing rings in rock bits is shown in a number of prior art patents, such as Patent No. 1,909,128-Scott which issued in 1933 and Patent No. 2,814,465-Green which issued in 1957. The use of an O-ring seal in rock bits is specifically shown in prior art patents, such as Patent No. 3,127,942-Neilsen which issued in 1964 to Smith and Patent No. 2,676,790-Turner which issued in 1954. Both Neilson and Turner qualitatively describe compression or squeezing of the O-ring to achieve sealing.

26. The foregoing fully demonstrates that the subject matter claimed in the seal patent was an old combination. These prior combinations of a resilient packing ring with the other conventional elements of a rock bit, the ring being an O-ring in the case of the Neilson and Turner patents, were the same combination as was asserted to be the inventive concept in the seal patent, and these combinations were described as performing the very same function as described for the combination in the seal patent.

27. Together with the foregoing body of prior art, Turner Bit Company in the 1950's and Smith in 1961-1964 manufactured, used, and sold rock bits having O-ring seals as shown in the Turner and Neilson patents respectively. O-rings in these bits which were in public use and on sale were squeezed to the quantitative amounts later patented in the seal patent. These activities of Turner Bit and Smith will be more fully treated below. Nevertheless, these activities are as much a part of the prior art as are the patents and other materials already discussed.

28. The evidence clearly shows that most, if not substantially all, sealed bearing rock bits, both journal bearing

and roller bearing, are run at speeds below 200 fpm. It appears to be the exception rather than the rule that such bits are run for any significant period of time in excess of 200 fpm. In any event, separately, there was, as part of the prior art, the publications of Linear teaching that squeezes in excess of 10% should be used in rotary seal applications for speeds up to 350 fpm.

29. The prosecution history of the seal patent reveals that Hughes submitted comparative bit data and recommendations of O-ring manufacturers in order to persuade the Patent Office examiner to withdraw his rejection of the claims under consideration. These submittals did not, in some material respects, meet the applicant's uncompromising duty to make a full and fair disclosure of all facts which may affect the patentability of his invention.

30. As to the comparative bit data, it was not disclosed to the examiner that the bearing structures in the bits being compared were different. Unknown to the examiner, one bearing structure typically provided a bit life of twice that provided by the other bearing structure. The data was submitted to the Patent Office in a context that would have led the examiner to believe that the improved bit life was attributable solely to squeeze placed upon the O-ring. Further, Hughes had data, which it did not submit, showing that, when run with the same bearing structure, there was no significant difference in bit life whether the seal was an O-ring seal or a Belleville seal.

31. As to the recommendations of the O-ring manufacturers, Hughes did not make available to the examiner complete information as to the seals being compared. In addition, the Patent Office examiner was not informed by Hughes as to the speeds of rotation which were involved in the subject matter claimed in the seal patent. He was left, therefore, without any basis for recognizing that the instruc-

tion in the Parker catalog, "Use Chart 8-1" for speeds of from 0 to 200 fpm, was applicable to the subject matter before him.

The Invalidity of the Seal Patent

32. The presumption of validity as to the seal patent is overcome because (a) invalidating prior art, such as the Linear catalogs and the 1951 Product Engineering article, were not before the examiner and (b) the failure by Hughes to make a fair and full disclosure materially prevented the examiner from properly interpreting the prior art which was before him.

33. The level of skill in the art of O-rings and in the art of rock bit design is high. Combined in the case of the seal patent are the high levels of skill found in both the O-ring art and the rock bit design art. It is against that combination of skills that the obviousness of squeezing an O-ring "not less than substantially ten percent" must be measured.

34. The seal patent is directed to those skilled in the O-ring art and in the rock bit design art. The evidence supports that the compressions, i.e., ten percent, fifteen percent, recited in the claims of the seal patent would be considered design center percentage squeeze by those skilled in these arts.

35. While Turner and Neilson left the quantitative amount of squeeze to the routine skills of the tool designers and engineers to which their patents were directed and to the catalogs and representatives of O-ring manufacturers, the recommendations and directions of the latter were to use in low speed rotary O-ring seal applications the same quantitative amount of squeeze as was asserted to be the basis for patentability of the seal patent. There was no bona fide deterrent to applying the squeezes taught in publications

such as Design Chart 8-1 or the table for rotating seals in the Linear catalog to the resilient packing ring in rock bits.

36. There was a total absence of any "unusual or surprising results" in applying a squeeze of "not less than substantially 10%" to the resilient packing ring in the old combinations of such a ring in a rock bit. No effect greater than the sum of the separate parts took place. There was no synergism whatsoever.

37. The application of a squeeze of "not less than substantially 10%" was no more than a routine expedient, established by prior practices, to insure that there was sufficient squeeze to provide a positive squeeze at all times taking into account the clearances and eccentricities which were known to be present in rock bits.

38. There is therefore no factual basis for establishing non-obviousness.

39. Exhibits CE through CI are components of a rock bit made by Turner Bit Company during the period 1948-1958. The bit has a cutter rotatably mounted on a solid-journal-bearing shaft secured to the bit body, the cutter having a bearing surface opposing and engaging the bearing surface of the shaft. A resilient packing-ring seal of the O-ring type is fitted in a groove in the cutter bearing surface to be radially compressed between the cutter and shaft as a rotary shaft seal. The O-ring had a nominal cross-sectional diameter of at least 0.139 inch before installation in the bit and was squeezed in excess of 10 percent of this nominal cross-sectional diameter when installed in the bit.

40. Turner bits of the type exemplified by Exhibits CE through CI were made and sold by the Turner Bit Company during the period 1948-1958, and these bits were known and used by others in the United States long prior to the making of the invention claimed in the seal patent. Claims

1-11 of the seal patent define an invention directed to the same problem and solution embodied in the prior-art Turner bits, and the claimed invention does not present any unusual or surprising result. The Turner bits anticipate the invention claimed in the seal patent, and any differences between the Turner bits and the claimed invention would have been obvious to one of ordinary skill in the art when the claimed invention was made.

41. Smith made and sold about 72 rock bits during the period 1961-1964 in the course of completing design evaluation programs ER803, 809, 814, 854, and 886. These bits used conventional O-ring seals and also composite O-ring seals corresponding to the seal styles shown in the seal patent. The seals as installed in the Smith bits were squeezed in excess of 10 percent of the cross-section diameter of the seals prior to installation. Another ER program (ER831) during 1961-1964 tested about nine bits using O-rings squeezed to a design-center value of about 35 percent. Smith concluded that a 35-percent squeeze was excessive, and subsequent projects completed by early 1964 (ER854 and 886) successfully employed O-rings squeezed to design-center values of 13.6 and 13.97 percent. These ER programs were all completed and the bits were used to drill oil wells more than one year before the filing date (and before any earlier date of invention) accorded the seal patent.

42. The very nature of the subject matter claimed, namely, components subject to tolerances, and the uncertainty introduced by the word "substantially" in the claimed subject matter of the seal patent fails to notify the public with a reasonable certainty of the dividing line between what infringes and what does not.

The Relief-Valve Patent and Its Invalidity

43. The relief-valve patent is directed to use of conventional relief valves in an otherwise conventional rock bit to vent excessive grease pressure in the lubrication systems associated with the bit bearings. This arrangement is directed at the ultimate goal of maximizing bearing life by preventing premature failure of pressure-sensitive components in the lubrication systems. The patent acknowledges that the development of a solution (use of a relief valve) was simple, and instead characterizes the invention as recognition of a problem — namely the recognition that pressure-sensitive components in the lubrication system could be damaged by excessive pressure arising from lubricant heating occurring while the bit was drilling rock at the bottom of a hole being bored.

44. U.S. Patent 2,906,504-Parks issued in 1959, and shows a rock bit with rotatably mounted cutters. A lubricant-filled bearing space between each cutter and an associated supporting pin is sealed by an O-ring shaft seal. Grease is admitted to the bearing space through a pressure control valve (piston 15 and associated parts in the patent drawing) which functions as a compensator to maintain grease pressure in the bearing space above the pressure of drilling fluid in the annulus outside the bit. A passage extends from the bearing space to the annulus, and a relief valve positioned in this passage releases excessive pressure which may develop in the bearing space when the bit is drilling a well. The relief valve and pressure control valve are vented through the same passage to drilling fluid in the annulus.

45. The *Parks* patent discloses that an excessive pressure may develop within the bearing space of a rock bit when the bit is drilling "on bottom" due to heating of the bearing lubricant. The patent also teaches that this excessive

pressure, unless relieved, may damage components of the lubrication system and thereby shorten bearing life, leading to a premature failure of the bit. The solution disclosed in the patent is to insert a relief valve in the bearing space to bleed excessively pressurized lubricant to the outside of the bit. The Parks patent discloses the same problem and the same solution described and claimed in the relief-valve patent.

46. Relief valves were used in rock bits made and tested by Smith in the early 1960's, more than one year before the filing date (or any earlier date of invention) accorded the relief-valve patent. The valves in the Smith bits were a low-pressure type arranged to bleed excessively pressurized lubricant in the bit bearings to the outside of the bit. Belleville seals were used to seal the bearing spaces of rock bits commercialized and shown in prior-art patents more than one year before the filing date (or any earlier date of invention) accorded the relief-valve patent. Belleville seals function as low-pressure relief valves to bleed excessively pressurized lubricant in the bit bearings to the outside of the bit. The prior-art patents show rock bits incorporating Belleville seals and flexible compensators which are vented to drilling-fluid regions at substantially the same fluid pressures.

47. The claims of the relief-valve patent define a combination of parts constituting a rock-bit drilling tool. The only alleged difference between the claimed combination and prior-art rock bits is the addition of a convention relief valve. The Patent Office examiner who examined the applications leading to the relief valve patent did not cite or show awareness of any prior art relating to use of a low-pressure relief valve to bleed excessively pressurized lubricant from the bearing space of a rock bit. This alleged difference is clearly disclosed in the non-cited prior art, and

any minor differences between the claimed invention and the prior art would have been obvious at the time the invention was made to one of ordinary skill in the rock-bit art.

48. The relief-valve patent is not entitled to a presumption of validity because the prior art on which the patent is invalid was not before the Patent Office at the time of examination of the application leading to the patent.

Conclusions of Law

1. Any differences between the subject matter of claims 1-11 of the seal patent and the prior art were obvious at the time the invention was made, and the claims are invalid, 35 U.S.C. 103.

2. Claims 1-11 of the seal patent define subject matter anticipated by the prior art, and the claims are invalid, 35 U.S.C. 102(a) and (b).

4. The claims of the seal patent fail to particularly point out and distinctly claim the subject matter which was regarded as invention and are therefore invalid, 35 U.S.C. 112.

5. The subject matter of the relief-valve patent is anticipated by the prior art, and all claims of the patent are invalid, 35 U.S.C. 102(a) and (b).

6. Any differences between the subject matter of claims 1-11 of the relief-valve patent and the prior art were obvious variations of the prior art, and the claims are invalid, 35 U.S.C. 103.

7. Secondary consideration such as commercial success and alleged copying, even if found to exist, which is not the case here, cannot lend validity to either the seal patent or the relief valve patent where, as here, the lack of patentable invention has been clearly shown.

8. All claims of U.S. Reissue Patent 28,625, earlier asserted by Hughes against Smith in this action, have been held invalid by a previously entered consent judgment.

Plaintiff is entitled to judgment in conformity with the foregoing Findings of Fact and Conclusions of Law.

Dated this 31 day of Oct. 1979.

/s/ R. Firth
United States District Judge

Presented By:
Christie, Parker & Hale
Andrew J. Belansky
Russell R. Palmer, Jr.

APPENDIX C.

United States Court of Appeals, Ninth Circuit.

Smith International, Inc., a California Corporation, Plaintiff-Appellee, v. Hughes Tool Company, a Delaware Corporation, Defendant-Appellant. No. 80-5199.

Argued and Submitted Oct. 3, 1981. Decided Jan. 7, 1982.

Edward A. Haight, Haight, Hofeldt, Davis & Jambor, Chicago, Ill., for defendant-appellant.

Andrew J. Belansky, Christie, Parker & Hale, Pasadena, Cal., for plaintiff-appellee.

Appeal from the United States District Court for the Central District of California.

Before GOODWIN, NELSON and REINHARDT, Circuit Judges.

GOODWIN, Circuit Judge.

Hughes Tool Co. appeals a declaratory judgment which held two patents invalid for obviousness, for anticipation by prior art, and for failure to properly claim the patentable art.

A. *Rotary Drilling Problem.*

Rotary drilling for oil and gas wells uses a rock bit threaded onto a drill pipe "string" which is lowered into a hole and rotated. The rock bit, in addition to having a "head" for such threading, has three rotatable cones with teeth or other cutting elements. These elements turn on bearings located in the interior of each cone and on three shafts or axles suspended from the "head." When the bit is lowered and rotated under great weight against the bottom, a drilling fluid is pumped down through the drill pipe, to the drill bit and then through nozzles in the bit to pick up loosened cuttings and carry them to the outside of the pipe

and eventually to the surface between the drill pipe and the well casing.

Two types of bit are in use, the roller bearing bit and the journal bearing bit. In the first, free-turning rollers separate the cylindrical surfaces on the inside of the shaft; in the second, the cylindrical surfaces oppose and engage each other. Either type performs under demanding conditions. At a depth of several miles, for example, the downhole temperatures can reach 400°F, and the drilling fluid may whip through and around the bit at 200-500 gallons per minute.

The resultant wear means that spent bits must be brought to the surface for replacement at great cost to a drilling company. For this reason, the industry has continuously searched for means to increase the working life of bits. Prior to the Hughes Patent No. 3,397,928 ('928) and Patent No. 3,476,195 ('195) patents, engineers attempted to increase the bit lifespan by sealing the drill bit to eliminate slush lubrication, a process in which the abrasive drilling fluid circulates freely through the bearings and produces wear.

Two sealing methods were patented prior to the Hughes patents, but neither used an O-ring in combination with a journal or roller bearing and a recommended minimum squeeze for the O-ring. The Turner Patent in 1954 used an O-ring to seal a journal as well as a ball bearing but did not suggest anything more specific than a "slight" squeeze of the O-ring. According to the deposition of four former employees of Turner Bit Company, the Turner seal was plagued with leakage while the company continued to experiment with seals in a variety of positions and configurations. Consequently, the company became defunct, and its remaining bits were auctioned off to a junk dealer. Smith discovered that one of the Turner bits had an O-ring seal and entered

the bit into evidence in the instant case as an illustration of prior art.

The Neilson Patent in 1962 restricted itself to using an O-ring in a roller bearing and, like the Turner patent, did not specify a minimum amount of squeeze.

The Parker Handbook, the most comprehensive and authoritative guide in the trade, cautioned against an O-ring seal under rotary conditions involving high temperatures and high speed rubbing surfaces. For an O-ring seal with these elements present, the handbook advised hard rubber (80—84 durometer), a limited squeeze (generally below 10%) and positioning away from the bearing surfaces.

Sealing the drill bit brought an additional problem: the buildup of lubricant pressure during drilling. The Parks Patent in 1959 observed that a rise in the bearing temperature during the rotation of the bit could cause a rise in lubricant pressure in the bearings and suggested a relief valve to counteract the pressure. A prior patent in 1946, the Christensen Patent, had recognized the problem and had suggested using "a grease fitting of a pressure relief type."

Smith International included relief valves in two experimental bits in the early 1960's. Records of the Smith experiments are sketchy because the first bit lasted for little more than an hour and the second lasted for only twelve hours. None of the Hughes' forerunners recognized that even after pressure compensators and vent holes were installed, the pressure within the bit would continue to exceed the drilling fluid pressure. Thus, lubrication would be lost, and wear would accelerate.

B. *'928 Patent.*

The '928 Patent by Galle, an employee of Hughes Tool Company, is entitled "Seal Means for Drill Bit Bearings" and uses illustrations and words to describe the use of an

O-ring with a specified durometer hardness and compression to seal a journal or roller bearing.

Both the drawings and statement of what is being patented emphasize the use of the compressed O-ring seal in a journal bearing. Figures 1-3A depict an O-ring with Galle's specifications in a roller bearing and the remaining six pictures show the O-ring in a journal bearing. Galle's statement concentrates on sealing a journal bearing; nine of the eleven items describe in detail the compression (at least 10%) and durometer hardness (70 or under) of an O-ring used to seal a journal bearing while only two claim the use of an O-ring in a roller bearing.

C. *'195 Patent.*

The '195 patent describes a recurrent problem with sealed rock bits: even when pressure compensators and vent holes attempt to equalize the pressure between the lubricant within the bearing and the drilling fluid surrounding the bit, pressure continues to build within the bit. Galle, the holder of this patent, also advises the use of a one-way pressure relief valve to counteract the buildup.

D. *Adopted Findings of the Trial Court.*

The trial court adopted almost verbatim and used as its opinion the proposed findings of Smith International.

The Ninth Circuit has repeatedly held that adopted findings require increased appellate scrutiny. *Norris Industries, Inc. v. Tappan Co.*, 599 F.2d 908, 909 (9th Cir. 1979); *Zweig v. Hearst Corp.*, 594 F.2d 1261, 1263 (9th Cir. 1979); *Photo Electronics v. England*, 581 F.2d 772, 777 (9th Cir. 1978); *Ceco Corp. v. Bliss & Laughlin Industries, Inc.*, 557 F.2d 687, 689 (9th Cir. 1977); *Burgess & Associates, Inc. v. Klingensmith*, 487 F.2d 321, 324—25 (9th Cir. 1973).

Although the court in *Photo Electronics* found adopted findings appropriate in highly technical patent cases and maintained the clearly erroneous standard for reversal, it acknowledged that an adoption should give rise to heightened scrutiny.

> "Certainly the fact that the trial judge has adopted proposed findings does not, by itself, warrant reversal [footnote omitted]. But it does raise the possibility that there was insufficient independent evaluation of the evidence and may cause the losing party to believe that his position has not been given the consideration it deserves. These concerns have caused us to call for more careful scrutiny of adopted findings [citations omitted]." *Photo Electronics v. England*, 581 F.2d 772, 777 (9th Cir. 1978).

Thus, although the clearly erroneous standard applies, this court gives heightened scrutiny to the findings not prepared by the trial court.

E. *Standards Applied to the Patents.*

Title 35 U.S.C. § 282 states that a patent is presumed valid and that the burden of establishing invalidity lies with the challenging party. For a patent to be declared invalid, the complaining party must establish that the subject matter was known or used by others (35 U.S.C. § 102), or that prior art would have made the subject matter, taken as a whole, obvious to a person of ordinary skill in the field (35 U.S.C. § 103).

(1) *'928 Patent.*

Smith did not meet its burden of proving the invalidity of the '928 patent. The subject matter was not known or used by others. Patent '928 was a combination patent comprised of several elements: an O-ring of specified hardness and squeeze used in a journal as well as a roller bearing

under high speed and high temperature rotary conditions. Although the individual elements such as the O-ring and the journal bearing are well-known, their combintion was not known.

By statute and under case law, a combination patent is judged in terms of all of its components. Title 35 U.S.C. § 103 specifies that an inquiry into patentability must be directed toward "the subject matter as a whole." The Supreme Court in *United States v. Adams*, 383 U.S. 39, 86 S.Ct. 708, 15 L.Ed.2d 572 (1966), upheld the validity of a patent for a nonacid, "wet" battery, all of whose components had been used or suggested individually before. The Court only required, as does the Ninth Circuit,[1] that the combination be synergistic and result in new and unexpected characteristics. The combination of elements in the '928 patent did produce a new and unexpected result — the first consistent 100-plus hour rock bit. The maximum previous lifespan had been 50-60 hours and was accomplished by the use of a seal also protected by patent.[2]

Judged as a whole, the Hughes patent was not anticipated by prior art. In combining an O-ring with a journal bearing, Galle tried something contrary to the leading industry authority on O-rings, the Parker Handbook. Although the previous patents cited by Smith contained some of the elements of the '928 patent, none contained all the components of the Galle approach.

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[1]*Penn Intern. Industries v. Pennington Corp.*, 583 F.2d 1078, 1081 (9th Cir. 1978); *Photo Electronics Corp. v. England*, 581 F.2d 772, 775 (9th Cir. 1978); *Santa Fe-Pomeroy, Inc. v P & Z Co., Inc.*, 569 F.2d 1084, 1094 (9th Cir. 1978); *Kamei-AutoKomfort v. Eurasian Automotive Products*, 553 F.2d 603, 608 (9th Cir. 1977)

[2]This patent for the "Belleville sale" was also owned by Hughes; Smith was found guilty of infringement of the patent in *Smith Industries International v. Hughes Tool Company*, 396 F.2d 735 (5th Cir. 1968).

In addition, Hughes submitted with the patent application a list of 14 prior patents, including those mentioned by Smith, and none was found by the Patent Office to interfere with the granting of '928. The statutory presumption of patent validity is dissipated only "when the patent examiner is shown to have failed to consider pertinent prior art." *Photo Electronics Corp. v. England, supra*, 581 F.2d at 775.

Although Smith did not demonstrate obviousness or anticipation by prior art, the trial court ruled that Patent '928 was invalid. The trial court ruling was mistaken and, thus, clearly erroneous. The increased scrutiny mandated by the judge's wholesale adoption of Smith's proposed findings merely makes the trial court's mistake more obvious.

The finding that patent '928 did not clearly claim the patentable art is also wrong because the drawings and articulation of the subject matter of the patent are detailed and clear.

(2) *'195 Patent.*

The '195 Patent is also a combination patent because it combines a pressure relief valve with a pressure compensator. Taken as a whole, the subject matter is not obvious because none of the patents used by Smith as examples of prior art involves a pressure compensator. Again, although Smith failed to meet its burden, the trial court ruled Patent '195 invalid, a mistaken and therefore clearly erroneous ruling.

Contrary to the mistaken ruling of the trial court, Patent '195 also clearly stated the patentable art it was claiming.

CONCLUSION

The judgment is reversed, and Patents '928 and '195 are declared to be valid. The Hughes counterclaim for infringement is reinstated, and the cause is remanded for further proceedings on the counterclaim.

Reversed and remanded.

APPENDIX D.

Order

United States Court of Appeals, for the Ninth Circuit.

Smith International, Inc. a California corporation, Appellee, v. Hughes Tool Company, a Delaware Corporation, Appellant. No. 80-5199.

Filed February 22, 1982.

Before: Goodwin, Nelson and Reinhardt.

The appellee's petition for rehearing is denied.

Opposition

Supreme Court, U.S.
FILED
APR 19 1982
ALEXANDER L. STEVAS
CLERK

No. 81-1795

In the
Supreme Court of the United States
October Term, 1981

SMITH INTERNATIONAL, INC.,
Petitioner,

vs.

HUGHES TOOL COMPANY,
Respondent.

BRIEF IN OPPOSITION ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

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Pursuant to Rule 28.1 of this Court, Respondent Hughes Tool Company, states that it has no parent companies, that that it has the following affiliates (other than wholly owned subsidiaries): Hughes Tool Company, C.A., Venezuela; Hughes WKM do Brasil Equipamentos Industriais LTDA, Brazil; Alea Company, Limited, Nigeria; APSCO (Asia) Pte. Limited, Singapore; Associated Petroleum Supply (Hong Kong) Limited; Brown-Foraid Oil Tools U.A.E., Ltd., Bermuda; and Brown Oil Tools de France S.A.R.L., France.

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In The

SUPREME COURT OF THE UNITED STATES

October Term, 1981

No. 81-1795

SMITH INTERNATIONAL, INC.,

Petitioner,

vs.

HUGHES TOOL COMPANY,

Respondent.

BRIEF IN OPPOSITION ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

Preliminary Statement

Petitioner's attempt to interest the Court in this case is centered on misstatements with respect to the decision of the Court of Appeals. The misstatements are reflected in the proffered "Questions Presented."

As to question 1, no feature was judicially added to any of the patent claims in suit. The patent is directed to a rock bit, and the claimed features are the structure of that bit. In order to appreciate that invention, the Court of Appeals noted some of the "demanding conditions" to which rock bits are subjected. One such operating condition is rotational speed. Because rock bits are

frequently operated at high speeds, they must be designed to survive in that environment. But, the fact that a particular driller might choose to operate at high speed is not part of the invention of Hughes' employee, Edward Galle. Galle did not invent high speeds, or the practice of using them. No one has ever contended to the contrary. And the Court of Appeals did not so hold.

As to question 2, the findings of the District Court were not ignored by the Court of Appeals. Indeed, they were explicitly given "heightened scrutiny" (A21). The Court held the findings to be "mistaken and, thus clearly erroneous" (A23). The Court of Appeals also noted that Smith had the burden of proving the Hughes patents invalid and that Smith had failed to sustain that burden (A21, A23). By its suggestion that the Court of Appeals should have remanded the case for a new trial and new findings, Smith is, in reality, asking for a second chance to sustain its burden.

Hughes Tool opposes the petition of Smith International on two grounds:

1. The decision below does not raise the questions said to be presented.

2. Even if the questions were raised, this Court has already rendered decisions resolving them, and no conflict or doubt remains to cloud the law.

STATUTORY PROVISIONS INVOLVED

35 U.S.C. § 282 in pertinent part provides:

> "A patent shall be presumed valid . . . The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity."

28 U.S.C. § 2106 provides:

> "The Supreme Court or any other court of appellate jurisdiction may affirm, modify, vacate, set aside or reverse any judgment, decree, or order of a court lawfully brought before it for review, and may remand the cause and direct the entry of such appropriate judgment, decree, or order, or require such further proceedings to be had as may be just under the circumstances."

STATEMENT OF THE CASE

The '928 patent in suit was the culmination of efforts by Hughes to develop a rock bit with a drilling life of 100 hours or more. The Court of Appeals noted that Hughes had achieved that goal (A22).

The Court of Appeals construed the '928 patent as a matter of law.[1] It found that the invention as described and itemized in the claims of the patent was in the use of an O-ring of a specified durometer hardness and under a specified minimum compression in conjunction with a journal bearing to form a seal. The Court held (A19-20):

> "The '928 Patent by Galle, an employee of Hughes Tool Company, is entitled 'Seal Means for Drill Bit Bearings' and uses illustrations and words to describe the use of an O-ring with a specified durometer hardness and compression to seal a journal or roller bearing.

---

[1] *Coupe* v. *Royer*, 155 U.S. 565 (1895); *Cold Metal Co.* v. *E. W. Bliss*, 285 F.2d 231, 239 (6 Cir. 1960); *Method Elect. Inc.* v. *Elco Corp.*, 385 F.2d 138, 140 (3 Cir. 1967); *Photo Electronics* v. *England*, 581 F.2d 772 (9 Cir. 1978).

> "Both the drawings and statement of what is being patented emphasize the use of the compressed O-ring seal in a journal bearing. Figures 1-3A depict an O-ring with Galle's specifications in a roller bearing and the remaining six pictures show the O-ring in a journal bearing. Galle's statement concentrates on sealing a journal bearing; nine of the eleven items [claims] describe in detail the compression (at least 10%) and durometer hardness (70 or under) of an O-ring used to seal a journal bearing while only two claim the use of an O-ring in a roller bearing."

As is clear from the above quoted portion of the Court of Appeals' Opinion, the Court looked to the drawings and descriptive portions of the patent as well as to the itemized statements (i.e., claims) of the invention. The Court did not go outside the patent.

In the District Court, Smith had urged that the invention of the '928 patent would have been obvious in view of certain instructions in the catalogs of O-ring manufacturers, e.g., the Parker Handbook. Those instructions related to O-ring usage under relatively undemanding conditions, including low speed operation. The District Court was induced to find that "most, if not substantially all, sealed bearing rock bits" are run at low speeds.

Hughes introduced substantial evidence showing that many drillers were running such bits under demanding conditions, including high speed operation, and that even Smith's bit designers had acknowledged that this practice was being followed. The inventor, Edward Galle, testified that in his work he felt compelled to design a bit that could be operated satisfactorily over the entire range of conditions to which it might be subjected:

> "In my work, I am attempting to develop a seal for a solid journal bearing, in my thinking, at least, I did not confine myself to the 50 or 60 rpm.
>
> "Rather my desire was to attempt to try to develop a seal which would be applicable to any type of a rock bit and as such from my experience with rotary drilling applications, I knew that bits were run at rotary speeds as high as 300 rpm in normal operations." (RT 731)

The Court of Appeals accepted the evidence that bits of the type here involved are run "under high speed and high temperature rotary conditions" (A22), and must be designed to operate satisfactorily under those and other "demanding conditions" (A18). It held the District Court's finding regarding low speed operating conditions to be clearly erroneous.

There has never been a zone of uncertainty as to what is covered by the '928 patent. Before commencing its infringement, Smith obtained and studied the patent, then proceeded with independent research efforts to design around it and thereby avoid liability to Hughes (RT 116-118). The independent research resulted in an O-ring seal and bearing design which Smith presented to the United States Patent Office in order to obtain its own patent. In arguing for the grant of its patent, Smith had no difficulty in explaining how the fruits of its research differentiated from the invention of the '928 patent (RT 118-119).

When Smith's own research effort proved to be a failure in field tests, and competitive pressures to equal the performance of the patented Hughes bits mounted, the decision was made by Smith to abandon its own patented design and to copy the design of the '928

patent (RT 138-139). And, when Smith started this litigation in 1972 by asking for a declaration of invalidity, it understood the '928 patent well enough to admit its infringement of the patent.

At the trial of this action, Smith sought to sustain its burden of proving the '928 and '195 patents invalid, and to thereby overcome the statutory presumption that such patents are valid (35 U.S.C. 282). Two years after the trial, the District Court held that Smith had met its burden and adopted essentially verbatim the proposed findings submitted by Smith (A1-16).

The Court of Appeals gave "increased scrutiny" to the findings adopted by the District Court and found them to be obviously "mistaken and, thus, clearly erroneous" (A23). The Court held that Smith had failed to sustain its burden of proving either of the '928 and '195 patents invalid, and remanded the case for further proceedings on Hughes' claim for relief due to Smith's infringement.

ARGUMENT

1. The Decision Below Does Not Raise The Questions Said To Be Presented

Smith first poses a question of "whether an unclaimed feature to which no reference is made in a patent specification can by judicial addition be made an element of the patent claim . . . ."

The straw man in this question is the assumption that the Court of Appeals construed the '928 patent as claiming that Galle somehow invented the high speed conditions under which some drillers operate rock bits. The assumption is inaccurate.

No one — not Galle, not Hughes, not the Court of Appeals — has ever suggested that high speeds were a feature of the invention. Instead, all have recognized that high speeds are an operating condition under which the patented drill bit may be required to perform. In this sense, the high speed operating condition is no different from other operating conditions also noted by the Court of Appeals, i.e., high temperatures, high velocity drilling fluids, abrasive environment and high pressures.

When the Court of Appeals discharged its duty to construe the '928 patent, it made no mention of the high speed operating condition (A19-20). On the other hand, when the Court felt called upon to comment on the "demanding conditions" *under* which the bits may or may not survive, it noted the high speed and high temperature characteristics (A-22), as well as the high pressure, abrasive environment and high velocity drilling fluid (A-18-19).

When, in judging the obviousness standard of patentability, the Court of Appeals considered the operating conditions of the drill bit in conjuction with the claimed elements, it was following precedent of this Court. In *U.S.* v. *Adams,* 383 U.S. 39 at 51 (1966), this Court approved the propriety of considering "operating characteristics" in conjunction with the elements of a patented battery to evaluate non-obviousness of the invention under 35 U.S.C. 103. The Court of Appeals did no more. This sanctioned procedure of considering "operating characteristics" on the issue of patentability does not incorporate those characteristics into the claims as suggested in the first question which Smith poses.

As a second reason for granting a Writ of Certiorari, Smith asserts that the Ninth Circuit should be supervised because it ignored ". . . *In Toto* and Without Explanation the Findings of the District Court . . . ." (A13)

This assertion is unfounded. The Court, in its opinion, wrote:

> ". . . this court gives heightened scrutiny to the findings not prepared by the trial court." (A21)
>
> and
>
> "The increased scrutiny mandated by the judge's wholesale adoption of Smith's proposed findings merely makes the trial court's mistake more obvious." (A23)

2. Even If The Questions Were Raised, This Court Has Already Rendered Decisions Resolving Them, And No Conflict Or Doubt Remains To Cloud The Law.

As acknowledged by Smith (Pet. p.10), this Court, as well as the lower Courts, has issued numerous and

consistent decisions upon the first question said to be presented, e.g., the prohibition of validating patent claims by adding to the claim an element not found therein. Even the Court below has recently acknowledged and followed this rule. See *Photo Electronics Corp* v. *England*, 581 F.2d 772, at 776 (9 Cir. 1978). The rule needs no reaffirmance.

This law is to be distinguished from cases, such as this, wherein extraneous evidence of the background, environment or operating conditions of an invention is considered as an aid in judging whether that invention was non-obvious and patentable. In *Loom Co.* v. *Higgins*, 105 U.S. 580, 586 (1881), the Court said:

> "And as it cannot be expected that the court will possess the requisite knowledge for this purpose, it should avail itself of the light furnished by the evidence to enable it to understand the terms used in the patent and the devices and operations described or alluded to therein. This evidence, of which the record in this case furnishes an abundance, being resorted to, we have no difficulty in comprehending the patent, or the nature of the invention therein described."

The second question said to be presented is whether this Court should supervise the contents and mandate of an appellate court which decides that the trial court findings are "clearly erroneous" and that an infringer has not met his burden of proof in his attack upon a patent. In raising this question, Smith makes no suggestion that the Court of Appeals deviated from its statutory power to:

> ". . . reverse any judgment, decree, or order of a court lawfully brought before it for review, and may

> remand the cause and direct the entry of such appropriate judgment, decree, or order, or require such further proceedings to be had as may be just under the circumstances." (28 U.S.C. 2106)

The decision of the Court of Appeals was not only consistent with its statutory power, but was in accordance with the customary judicial approach of this Court and other Courts of Appeal. In *United States* v. *Gypsum Co.*, 333 U.S. 364 (1948), the Court heard a direct appeal from the trial court's decision under the Expediting Act. Findings of the trial court were reversed; no opportunity was given for the trial court to produce a second set of findings on the matter. The Court said (333 U.S. at 395):

> "Since judicial review of findings of trial courts does not have the statutory or constitutional limitations on judicial review of findings by administrative agencies or by a jury, this Court may reverse findings of fact by a trial court where 'clearly erroneous.'"
>
> and
>
> "A finding is "clearly erroneous' when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed."

There is even less cause to remand for more findings in a patent case where the accused infringer has been held to have failed in his burden of proving invalidity. Smith suggests not a single precedent for giving an infringer the suggested second chance. Indeed, in patent cases where, as here, the patent is declared valid, the Courts of Appeals have uniformly reversed without, as Smith suggests (Pet. p.15), remanding "to produce findings for the appellate court which will be given the

weight to which they are entitled." See *Georgia-Pacific Corp.* v. *United States Plywood Corp.*, 258 F.2d 124, 126 (2 Cir. 1958), *cert. den.*, 358 U.S. 884 (1958); *Jones Knitting Corp.* v. *Morgan*, 361 F.2d 451, 458-459 (3 Cir. 1966); *Continental Oil Co.* v. *Cole*, 634 F.2d 188, 198 (5 Cir. 1981), *cert. den.*, ... U.S. ....., 102 S.Ct. 124 (198..); *Mojonnier Dawson Co.* v. *U.S. Dairies Sales Corp.*, 251 F.2d 345, 355 (7 Cir. 1958); *cert. den.*, 356 U.S. 975 (1958).

The Petition should be denied.

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PETITIONER'S REPLY TO BRIEF IN OPPOSITION

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PETITIONER'S REPLY TO BRIEF IN OPPOSITION

QUESTION 1

Respondent's brief meticulously avoids mentioning that the Court of Appeals pinpointed the elements of the claim that it validated. It stated: "Patent '928 was a combination patent comprised of several elements: an O-ring of specified hardness and squeeze used in a journal as well as a roller bearing *under high speed and high temperature rotary conditions*." (A21-22, emphasis added.) The court prefaced this claim definition with: "The subject matter was not known or used by others." (A21.)

That which the court below viewed as "not known or used by others"[1] was the amount of O-ring squeeze[2] "under high speed and high temperature rotary conditions." The evidence at trial was overwhelming that the same amount of O-ring squeeze as claimed in the '928 patent was rec-

[1]The court below acknowledged that "(t)he Turner patent in 1954 used an O-ring to seal a journal . . . ." (A18.)

[2]Not less than substantially ten percent.

ommended in the prior art for low speed rotary conditions. Respondent's brief virtually concedes that such was the case. (p. 4, second full paragraph.) Without the addition at the appellate level of "high speed rotary conditions" as an element, the '928 claims were clearly invalid. The trial court so found.

Yet, respondent's brief asserts "No one — not Galle, not Hughes, not the Court of Appeals — has ever suggested that high speeds were a feature of the invention." (p. 7.) This statement is flatly refuted by the opinion of the court below in which it, having "found" that high speed usage was a deterrent to use of those O-ring squeezes recommended in the prior art for low speeds, "saved" the patent claims by expressly making "high speed rotary conditions" an element of the claim.

The court below gave no recognition to the fact that the '928 patent makes no mention whatsoever of rotary speed, either in its claims as issued by the Patent Office or in its specification. Respondent's brief makes no attempt to contradict this indisputable fact. By validating a patent claim in reliance upon an unclaimed feature, neither described nor referred to in the '928 patent, the court below acted antithetically to the salutary purposes of 35 U.S.C. § 112 and to the decisional law of this Court. The court below in effect created a new patent monopoly over thirteen years after issuance of the original patent which gave the only notice to the public of what was described and claimed as the Galle invention.

Hughes misses the point regarding the zone of uncertainty created by the improper action of the court below. (p. 5, respondent's brief.) The public should have been entitled to measure the invention by the claims in the patent as issued. The approach of the court below renders such anal-

ysis meaningless, and leaves uncertain what a patent covers until all appeals are exhausted.

The need for corrective action by this Court is further underscored by the clear indications in respondent's brief as to how respondent intends to wield this patent in the future. The arguments of respondent Hughes foretell that its competitors will be faced with infringement claims of the "nose of wax" character[3] long ago condemned by this Court in *White v. Dunbar*, 119 U.S. 47, 51-52 (1886). Hughes now argues that "high speed rotary conditions" have not been made an element of the '928 claim, even though it was on that basis that it was validated by the court below. Hughes substitutes the euphemism that "high speeds are an operating condition . . . ." (p. 7, respondent's brief.)

The public and the rock bit industry, including petitioner Smith International, should not be subjected to the cloud of further litigation by a patentee who brazenly treats patent claims in such an accordian fashion — contractible for validity and expansible for infringement. As stated in *McClain v. Ortmayer*, 141 U.S. 419, 424 (1891):

> The object of the patent law in requiring the patentee to 'particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery,' is not only to secure to him

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[3] "Some persons seem to suppose that a claim in a patent is like a nose of wax which may be turned and twisted in any direction, by merely referring to the specification, so as to make it include something more than, or something different from, what its words express. . . . The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms." 119 U.S. at 51-52.

all to which he is entitled, *but to apprise the public of what is still open to them*. (Emphasis added.)

Hughes was not entitled to the as-issued claims of the '928 patent. Those claims contained no reference to speed and applied to low rotary speeds as well as to high rotary speeds. As the trial court found, those claims were invalid.

In short, the court below validated the '928 claims by adding an element which incontrovertibly was not mentioned by the inventor in his patent. The protection of the public requires reaffirmation by this Court that a holding of the kind made below is an abuse of the safeguards that are an integral part of the patent system. That holding should not be permitted to stand.

QUESTION 2

While, as stated in respondent's brief, the court below "in its opinion, wrote: '. . . this court gives heightened scrutiny to the findings not prepared by the trial court,' " (p. 8) the court prefaced the foregoing by stating, "the clearly erroneous standard applies . . . ." It is the failure of the court below to observe that very standard which is the basis for petitioner's second question.

The court below totally ignored controlling findings which had been made by the trial court on conflicting evidence and which separately established invalidity of the two patents in suit.[4] It ignored findings showing invalidity under 35 U.S.C. § 102 for lack of novelty; it ignored findings which applied the Graham[5] analysis to each of the two patents and resulted in a holding of invalidity under 35 U.S.C. § 103.

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[4]Examples of such ignored findings are listed at pp. 14-15 of the petition.

[5]*Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

Respondent's brief makes no reference to those ignored findings; instead, it states that the court below acted "in accordance with the customary judicial approach of this Court and other Courts of Appeal." (p. 10.) Such a statement mischaracterizes the painstaking efforts reviewing courts should make to adhere to the principles underlying Rule 52(a), Federal Rules of Civil Procedure. The case cited by respondent, *United States v. United States Gypsum Co.*, 333 U.S. 364, 393-95 (1948), itself tellingly confirms that the correct application of the "clearly erroneous" rule requires specific examination of the questioned finding and of the underlying evidence.

Hayes Spray Gun Co. v. E.C. Brown Co., 291 F.2d 319, 322 (9th Cir. 1961), provides a further demonstration of the correct application of the "clearly erroneous" rule. The Ninth Circuit reversed from invalidity to validity where, as to one patent, *the supported findings by the District Court* permitted the conclusion of validity on appellate review. But as to three other patents held invalid by the District Court, remand was ordered because the record did "not affirmatively establish that these patents do, in fact, meet the high standards of invention." Remand is the proper and fair procedure under the circumstances here presented.

The statutory power conferred by 28 U.S.C. § 2106 upon courts of appellate review is conditioned upon the observance by those courts of the controlling rules of law. The court below acted as if no trial had ever taken place. It swept aside the trial court's findings and created its own. It thereby utterly failed to apply the "clearly erroneous" standard in the proper manner and deprived petitioner of its day in court. This failure calls for this Court to exercise its power of supervision by remanding the case to the district court.

CONCLUSION

A writ of certiorari should issue.

April 23, 1982

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